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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/526,807	10/12/2005	Bastian Albers	P17214US1	9912
27045	7590	08/21/2007	EXAMINER	
ERICSSON INC. 6300 LEGACY DRIVE M/S EVR 1-C-11 PLANO, TX 75024			RECEK, JASON D	
			ART UNIT	PAPER NUMBER
			2109	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/526,807

Applicant(s)

ALBERS ET AL.

Examiner

Jason Recek

Art Unit

2109

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☒ Claim(s) 5 and 7 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 March 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>4 March 2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This is in response to application 10/526807 filed on March 4th 2005, in which claims 1-22 are presented for examination.

Status of Claims

Claims 1-22 are pending, of which claims 1 and 11-13 are in independent form.

Claims 13-22 are currently rejected under 35 U.S.C. 101.

Claims 1-8, 10, 12-20 and 22 are currently rejected under 35 U.S.C. 102(e).

Claims 9, 11 and 21 are rejected under 35 U.S.C. 103(a).

Claims 5 and 7 are currently objected to.

Claim 8 is currently rejected under 35 U.S.C. 112 second paragraph.

Claim Objections

1. Claims 5 and 7 are objected to because of the following informalities: the claims recite "the selected" / "the first data packets". Both claims depend from claim one which recites "the selected data packet" and "the first data packet" thus the term *packets* lacks proper antecedent basis. Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

Art Unit: 2109

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 8 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claim recites "wherein the delay budget is adapted" the word *adapted* does not clearly define what change is made to the delay budget when the rate of transmission is lower than the limit.

Claim Rejections - 35 USC § 101

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 13-22 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The claims are directed to a computer program product in a computer usable medium however the specification defines a computer usable medium as including signals (pg. 12 ln. 5-7), this language makes claims 13-22 non-statutory. This passage of the disclosure presents intrinsic evidence showing that Applicant intends for the term "medium" to cover something beyond physical articles or objects which are functionally or structurally interconnected with the instructions in such a manner as to enable the instructions to act as a computer component and realize their functionality. Such a medium, signal or carrier that the term "computer usable medium" referred to may take many forms, including, but not limited to, non-volatile,

Art Unit: 2109

volatile, and transmission media... transmission media includes coaxial cables, copper wires and fiber optics, including the wires that comprise the bus. As such, claims 13-22 as written and in view of Applicant's disclosure (pg. 12 ln. 5-7), are not limited to statutory subject matter and are therefore non-statutory.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-8, 10, 12-20 and 22 are rejected under 35 U.S.C. 102(e) as being anticipated by Radha et al U.S. Pat. No. 6,700,893 B1.

Regarding claim 1, Radha discloses "transmission of a plurality of data packets from a sender to a receiver, wherein the data transmission is performed over a link with limited transmission capacity" as streaming data over a network (Fig. 1), "a presentation time is defined for a first data packet of said plurality" as a time that a data packet must be delivered in order to be useful (col. 1ln. 50-52), "the receiver performs a first check whether data packets are correctly received and at least one data packet is selected for retransmission" as the receiver detecting missing packets and requesting

Art Unit: 2109

retransmission (col. 3 ln. 22-26), "determining a delay budget from the presentation time of the first data packet" (col. 2 ln. 58-60), "determining a delay requirement for the retransmission of the selected data packet" as calculating how long it will take to retransmit the lost data packet (col. 12 ln. 53-55), "comparing the delay requirement and the delay budget" as comparing the budget with the transmission requirement (col. 15 ln. 41-50), and "executing retransmission for the selected data packet according to the result of the comparison" as retransmitting depending on the outcome (col. 15 ln. 50-55).

Regarding claim 2, Radha discloses "the receiver stores data packets in a buffer with a buffer fill level and wherein the delay budget is a function of the buffer fill level" as a buffer for receiving packets and a delay budget controller that monitors the fill level or underflow status of the buffer (col. 5 ln. 64-67, Fig. 1).

Regarding claim 3, Radha discloses "the delay budget is determined for a group comprising at least two first data packets" as providing a delay budget controller capable of operating on streams of data packets (col. 3 ln. 9-14) thus a delay budget for a group of at least two packets exists.

Regarding claim 4, Radha discloses "the first data packets are transmitted in a predefined sequence and those data packets are selected for the group, which are the next data packets for transmission in said sequence" as the invention relates to a

Art Unit: 2109

stream of data (col. 3 ln. 9-14) the packets have a predefined sequence, and "the selection of data packets for the group is stopped if the delay budget remains constant for further selected packets" as constraints that the delay budget must adhere to, one of which is that the budget is determined by packet retransmission time and thus only a finite number of packets may be selected (col. 12 ln. 60- col. 13 ln. 3).

Regarding claim 5, Radha discloses "the receiver requests the selected data packets in a status message" as the receiver requesting retransmission of selected packets by sending a status message that the packets were not received (col. 16 ln. 18-20, Fig. 6).

Regarding claim 6, Radha discloses "the delay budget is reduced by the delay requirement if a retransmission is performed" as a delay budget that consists of delay requirement thus when retransmission is performed the delay requirement is no longer and the delay budget would be reduced (col. 12 ln. 52-65).

Regarding claim 7, Radha discloses "a further comparison of the delay budget with a further delay requirement is performed before a further calculation of the delay budget from the presentation times of the first data packets" as calculating the delay budget once, and then continually comparing the budget with the delay requirement for a particular packet (col. 16 ln. 2-17, Fig. 6).

Regarding claim 8, Radha discloses "the delay budget is adapted if a present rate of the data transmission is lower than the limit of the data transmission capacity" as a delay budget that adapts to network conditions (col. 11 ln. 10-12) such as round-trip delay and bandwidth (col. 11 ln. 51-52).

Regarding claim 10, Radha discloses "a presentation time of the selected data packet is compared to an estimated arrival time of the selected data packet at the receiver in a further check and wherein the retransmission of the selected data packet is performed according to the result of the further check" as a time that a data packet must be received in order to be used (col. 1 ln. 50-52), the purpose of the invention is to eliminate wasteful retransmission, the arrival time is determined from the retransmission time and if successful the packet will be recovered (col. 13 on. 35-42).

Regarding claim 12, Radha discloses "a receiver [for performing the method of claim 1] as a receiver that determines delay budget, a delay requirement, and compares them to determine whether retransmission is appropriate (col. 15 ln. 64 - col. 16 ln. 24, Fig. 1).

Regarding claims 13 -20 and 22, they are substantially similar to claims 1-8 and 10 respectively because they are directed to a program product that contains a computer program to perform the method of claims 1-8 and 10, therefore they are

Art Unit: 2109

rejected for the same reasons. Radha discloses that the method is embodied in a computer environment (col. 6 ln. 15-18).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 9 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Radha in view of Hackenberg et al. U.S. Pat. No. 6,792,470 B2.

Regarding claim 9, Radha does not disclose "a priority is attributed to the first data packet or a selected data packet and wherein the retransmission is executed according to said priority" however this is taught by Hakenberg as determining the level of priority for a data frame and transmitting the frame with higher priority (col. 6 ln. 42-54, Fig. 6).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Radha with the priority attribute of Hakenberg. The motivation for doing so is to provide quality of service, it is well known in the art that a priority attribute can be used to provide quality of service.

Art Unit: 2109

Regarding claim 21, it is substantially similar to claim 9 and is therefore rejected for the same reasons and motivation.

5. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Radha.

Regarding claim 11, Radha discloses "a sender in a network" (col. 5 ln. 24, Fig. 1), with all the limitations described except Radha does not specifically disclose that the sender has ability to "define a presentation time for a first data packet" nor "determine a delay budget" nor "determine a delay requirement". Radha discloses the receiver as having these capabilities (col. 2 ln. 58-60, Fig. 1) and furthermore teaches that the sender and receiver may be PCs (col. 5 ln. 27, col. 6 ln. 9).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Radha by providing the functionality taught in the receiver in the sender. It is well known in the art to have a server perform functions for a client, by adding the ability to the sender to determine delay budget and delay requirement, the sender is now acting like a server and performing functions for the client.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Art Unit: 2109

Zhang et al. US 2003/0018794 A1 discloses using a budget to retransmit packets.

Mallory US 2002/0042836 A1 discloses using priority and a delay budget in network communications.

Ha et al. U.S. Pat. 7,099,273 B2 discloses retransmitting packets using a timer.


Zhu et al. U.S. Pat. 6,085,252 discloses retransmitting packets based on delay and a bandwidth budget.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason Recek whose telephone number is (571) 270-1975. The examiner can normally be reached on Mon - Thurs 7:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frantz Coby can be reached on (571) 272-4017. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2109

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Jason Recek
8/14/07



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